

CLAIMS

Claims 1-31 (canceled)

Claim 32 (currently amended): A composite comprising a sandwich structure comprising at least two surface layers attached to a central layer of rigid epoxy foam wherein the layer of epoxy foam:

- i. comprises from about 15% to about 65% by weight epoxy resin;
- ii. is at least 1.5 times the combined thickness of the two surface layers; and
- iii. has a density of from 0.2 to 1.5 gram/cc;

wherein the resulting composite has a flexural modulus as measured by ASTM D790/ISO 178 from 200 mPa to 700 mPa; and

wherein the at least two surface layers are matching internal and external structures,
and the at least two surface layers are hollow box sections or tubes.

Claim 33 (Previously Presented): A composite according to claim 32 in which the foam has a density of between 0.4 and 1.5 gram/cc.

Claim 34 (Previously Presented): A composite according to claim 32 in which the surface layers are of metal foil such as aluminium or steel foil, plastic film or sheeting such as polypropylene or polyethylene film or polyethylene terephthalate film

Claim 35 (Previously Presented): A composite according to claim 32 in which the surface layers are porous fibrous or both.

Claim 36 (Previously Presented): A composite according to claim 32 in which the surface layers are fibrous and the fibres are carbon fibre, glass fibre or Kevlar.

Claim 37 (Cancelled):

Claim 38 (Cancelled):

Claim 39 (Currently Amended): A composite according to claim [[37]]32 in which the surface layers are concentric tubes.

Claim 40 (Previously Presented): A composite according to claim 32 in which the surface layers are of a metal that includes aluminum.

Claim 41 (Previously Presented): A composite according to claim 32 in which the surface layers are of different materials.

Claim 42 (Previously Presented): A composite according to claim 32 in which the composite is part of a construction building or a transportation vehicle.

Claim 43 (Previously Presented): A composite according to claim 42 in which the composite is configured to provide reinforcement against crash in vehicles.

Claim 44 (Previously Presented): A composite according to claim 43 in which the composite is configured to provide automobile door reinforcement.

Claim 45 (Previously Presented): A composite according to claim 32 in which the composite is configured to provide strength in a sporting good.

Claim 46 (Currently Amended): A composite comprising a sandwich structure comprising at least two surface layers attached to a central layer of rigid epoxy foam wherein the layer of epoxy foam comprises from about 15% to 65% by weight epoxy resin, is at least 1.5 times the combined thickness of the two surface layers, and the foam has a density of from 0.3 to 0.6 gram/cc, wherein:

- i. each of the at least two surface layers has a thickness of from 0.2 to 10 millimetres and the central layer of a rigid epoxy foam has a thickness of from 2 to 200 millimetres;
- ii. the composite has a flexural modulus as measured by ASTM D790/ISO 178 from 200 mPa to 700 mPa; [[and]]
- iii. the composite has a density of from 0.1 to 1 gram/cc;

Filed Via EFS @ USPTO.gov on 4.14.11
Docket No. 1001-159

- iv. the surface layers are matching internal and external structures; and
- v. the surface layers are hollow box sections or tubes.

Claim 47 (Previously Presented): A composite according to claim 46 in which the surface layers are of metal foil such as aluminium or steel foil, plastic film or sheeting such as polypropylene or polyethylene film or polyethylene terephthalate film.

Claim 48 (Previously Presented): A composite according to claim 46 in which the surface layers are porous fibrous or both.

Claim 49 (Cancelled):

Claim 50 (Cancelled):

Claim 51 (Cancelled):

Claim 52 (Previously Presented): A composite according to claim 32 in which the surface layers are carbon fibre formed as concentric tubes.

Claim 53 (Previously Presented): A composite according to claim 46 in which the surface layers are carbon fibre formed as concentric tubes.